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GEOGRAPHIC VARIATION IN
RED-WINGED BLACKBIRDS FROM
CENTRAL NORTH AMERICA

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The need to develop management strategies aimed at reducing sunflower damage by red-winged blackbirds (*Agelaius phoeniceus*) led to investigations using morphological data to identify specific redwing populations.

The right ulna from 4,623 territorial male red-winged blackbirds collected from 177 one degree latitude-longitude blocks in North Dakota, South Dakota, Minnesota, Saskatchewan, and Manitoba was extracted and measured. Analysis of variance indicated significant differences ($P < 0.0001$) in bone length versus latitude, longitude, blocks, and between years. Results of the Student-Newman-Kuels (SNK) test indicated no clinal difference between one degree blocks from southeast to northwest; however, when degree blocks were combined by 3-5 degrees, a clinal increase in ulnar length was observed.

The right ulna from 2,084 and 675 migratory redwings collected in the fall of 1986 and 1987, respectively, in Benson county, North Dakota, was extracted and measured. Analysis of variance indicated no difference in bone length over time ($P > 0.05$). Mean ulnar length for males was 34.7 mm (+0.02) in 1986 and 34.8 mm (+0.04) in 1987. Female redwings had a mean ulnar length of 29.0 mm (+0.04) for both years.

Geographic variation in the red-winged blackbird was observed when large geographic areas were compared. Fall migratory populations did not exhibit significant temporal differences in ulnar length; consequently the breeding origins of these populations were impossible to predict. Future research investigating other morphological characters such as bill length, wing chord length, tail length, or culmen length is warranted.